



## Andy's Corner The Whole House Fan – ARGH!

What do whole house fans and tie dye tee-shirts have in common? They both became popular in the 1960s and are anachronisms (there's a great SAT word for our kids!). However, whole house fans, are still popular and create tough issues for the Home Performance Contractor.

A whole house fan pulls a large amount of air out of a structure's living space and pushes it into the attic. This causes a positive pressure in the attic, which hypothetically forces air out through the gable and/or soffit vents. At the same time, this produces a negative pressure inside the living areas, which draws cool air in through open windows to help pre-cool the house before the day's heat has arrived.



In the Sacramento Valley, whole house fans work very well if used correctly and consistently. By pre-cooling the home, the air conditioner will postpone operation for many hours, thus saving energy. There are several types of whole house fans available, but the most common existing type of fan in the homes we work on will be those with a big multi-bladed fan hidden by a pressure operated louver. Most customers love their whole house fan, and learning how to mitigate their issues will be important, as not being sensitive to their thoughts on this matter could cause you to lose a job.

### Drawbacks

There are four major drawbacks to using a whole house fan:

1. Backdrafts from open flames (e.g., from water heaters or gas-fired furnaces) due to the negative pressure that can cause unsealed combustion appliances to spew toxic carbon monoxide into the house;
2. If the attic ventilation openings are not large enough to expel all of the forced air, many times the air from the attic is pushed back down into

the living space, bringing with it fiberglass or borate laden cellulose, plus dust and possible rodent droppings.

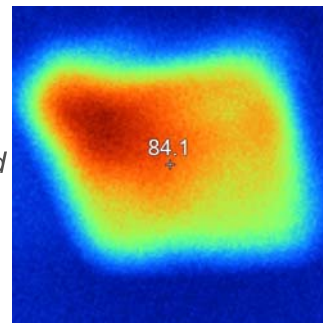
3. Unfiltered air comes in through the windows that may contain dust, pollen or other allergens, which can greatly affect the health and comfort of the occupants. Also this dust could settle on floors and furniture, making the inside of the home dirtier than it would otherwise be.



4. *And finally, the most important issue for the Home Performance Professional is that the Whole House fan is basically a large "hole in the ceiling" which counteracts all of your air sealing efforts. Each afternoon the fan acts as a conduit to allow the heat from the attic into the living space, and in the winter, the fan acts as a large chimney pulling cold air into the home down low and letting it escape through the fan.*

### How do whole house fans fit into whole house home performance?

*Technically they counteract our efforts to seal the envelope. But they are beloved by many owners, and SMUD also offers a standalone rebate for them. To be consistent with our BPI training, and SMUD's rebate program, we have to be clever in how we respond to the mutually exclusive nature of competing desires. When there is an existing whole house fan, it is advised to explain the pros and cons of leaving it in place. There are new units which have built in seals which help to mitigate the problems explained above,*



*but these usually do not move the amount of air the customer is used to. Possibly they would be willing to allow you to install one or two of these types. If not, is there a way to make or buy an insulated cover which could be placed over the fan at the end of the summer season? If so will the customer be able to easily access this each summer to pull it off? Could your company come and do it for them? Could an insulated panel be attached on the front side via magnets? Whole house fans do bring with them a lot of problems, yet some viable benefits also; so there isn't an easy answer to keep everybody happy. Clear explanations and understanding will go a long way to help reach a workable solution.*

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Thank you for your continued participation and feedback! Please